

# Series 311

## PAH and Halogen-free Solvent based Screen Printing Ink for Plastics

Glossy and high-pigmented screen printing ink, Series 311, based on PAH and halogen-free raw materials for printing on various plastics. Series 311

is typically used for printing of toys, stickers and components in the 3C field.

### Application

- › Toys
- › Stickers
- › 3C (Computer, Communication & Consumer Electronic)

### Substrates

Substrate	Rating	Hints
PET-A	★★★★★	
ABS, SAN, copolymers	★★★★	
Acrylic glass (casted PMMA)	★★★★	
Primered / coated foils	★★★★	
Polycarbonate (PC)	★★★★	
Plasticized PVC self-adhesive foils	★★★★	
Rigid PVC	★★★	
Paper, cardboard	★★★	
Polystyrene (PS), glossy	★★★	
Polystyrene (PS), mat	★★★	
Composite materials	★★★	

**Legend**      ★★★★★ Very well suited      ★ Detailed pre-tests necessary

Properties / Characteristics

Feature	Rating	Hints
Alcohol- and gasoline resistance	★★★★	Use of Series 600-HDA (5-10 %) to further improve resistance.
Resistance to adhesives	n/a	
Block resistance	★★★	
Flexibility	★★★★	
Gloss	★★★★	Glossy
Resistance to hand sweat	★★★★	
Light fastness	★★★	See technical information: light fastness
Abrasion resistance	★★★★	
Pigmentation	★★★★★	
Screen openness	★★★	
Temperature resistance	n/a	
Drying	★★★★	
Moldability	n/a	
Weather resistance	★★★	

**Legend**      ★★★★★ Very good product properties      n/a      No information available  
 ★      Product properties not available

Product Range

MS Basic Colors

Article	Color	HF			Article	Color	HF		
311-1100	MS light yellow	•			311-5000	MS blue	•		
311-3000	MS red	•			311-6010	MS green	•		
311-3100	MS magenta red	•			311-8000	MS black	•		
311-3300	MS magenta	•			311-9000	MS white	•		

HF      Halogen-free

Note I: The MS basic inks must be processed in combination with the corresponding binder Series 311-07 (min. 20 % by weight).  
 Note II: All acronyms used in this chart are explained in detail on the last page of this data sheet.

Other Colors

<b>ST Process Inks</b>	According to ISO 12647 Part II
<b>Special Colors</b>	Pantone <sup>®</sup> , HKS, RAL and after customers sample
<b>Others</b>	Series 311-00      ST white
	Series 311-04/ISO      Transparent paste
	Series 311-05      ST varnish
	Series 311-07      Binder for metallics
	Series 311-33      ST black

## Auxiliaries

<b>Thinner</b>	Series 10-02459	<b>Addition ratio</b>	10 – 20 % by weight
<b>Retarder</b>	Series 10-03432	<b>Addition ratio</b>	10 – 20 % by weight

Note: a detailed overview of all available auxiliaries can be found in a separate data sheet.

## Processing

### Mesh

All commercially available polyester can be used.

### Stencils

All commercially available and solvent resistant stencils can be used.

### Drying

Drying of Series 311 depends on the layer thickness as well as on the substrate and the auxiliaries used.

Usual parameters are (without addition of retarder):

<b>Air</b>	Physically slow drying.
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### Further Processing

- › Punching
- › Cutting
- › Lining
- › Grooving

### Cleaning

Series 300-URS, Series 300-BRS

## Special Features & Tips

<b>Mixing system (MS)</b>	MS ink Series 311 (80 % by weight) + Binder Series 311-07 (minimum 20 % by weight)
<b>Color range</b>	Limited color range due to halogen-free pigmentation.
<b>Cleaning during printing</b>	Use of PAH and halogen-free cleaner Series 300-BRS.

## Productivity

Depending on the color shade, a productivity of 50-70 m<sup>2</sup>/kg is to be expected with press-ready ink (20 % thinner) and use of a mesh 120.34.

## Others

<b>Delivery</b>	1 kg / 5 kg / 25 kg
<b>Certificates / standards</b>	<a href="http://www.printcolor.ch/certificates">www.printcolor.ch/certificates</a>
<b>Other</b>	Stir well before use. Information on shelf life can be found on the cover label.

## Basic Color Systems

HP Basic Color Mixing System with high-pigmented basic colors.

## Safety Information

Actual Material Safety Data Sheets according to EC-Regulation 1907/2006 are available for all products mentioned in this data sheet.

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## Important Information

Our technical advice whether spoken, written, or through test trials corresponds to our current knowledge to inform about our products and their use. This is not meant as an assurance for certain properties of the products nor their suitability for each application. You are, therefore, obliged to conduct your own tests with our supplied products to confirm their suitability for the desired process or purpose. The selection and testing of the ink for specific applications is exclusively your responsibility. Should, however, any liability claims arise, such claims shall be limited to the value of the goods delivered by us and utilized by you with respect to any and all damages not caused intentionally or by gross negligence.